

Name: _____

Date: _____

Exponent Practice #5:
Power to Power/Division Rule Practice

Part One: Simplify each expression as completely as possible. Do not leave powers of one or zero, or negative indices, or coefficients of one. Be sure to combine all like terms.

1. $(6x^2y^3)^5$	2. $(-2x^{-3}y^4)^2$
3. $\frac{x^5y^3}{x^8y}$	4. $(-3x)(5x^2)^2$
5. $\frac{5a^4b^6c^{10}}{10a^2b^3c^5}$	6. $(-a^3b^8)^3$
7. $\frac{a^3b^8c^{-10}}{a^5b^3c^{12}}$	8. $(9x^4y^3)^3$

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Part Two: Please answer each question using complete sentences and algebraic terms. Be sure to ECHO the prompt. The reader should be able to know what the original question was just by reading your answer!

9. Jessica claims that $(5x^3)^2$ is equivalent to $25x^6$. Todd claims that $(5x^3)^2$ is equivalent to $10x^6$. Who is correct? Explain your answer.

10. How is the Raising Power Products to Powers Rule similar to the distributive property? (This rule states that $(a^m b^m)^n = a^{mn} b^{mn}$.)
